

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2003/001787

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B01L 3/14, B01L 3/00, B04B 15/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B01L, B04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | WO 058013 A1 (ALPHAHELIX AB), 5 October 2000 (05.10.2000), see the whole document -- | 1-27 |
| A | US 6342771 B1 (E.TÖDTEBERG), 29 January 2002 (29.01.2002), see figure and the claims -- | 1-27 |
| A | US 5724819 A (J.W-BOECKEL ET AL.), 10 March 1998 (10.03.1998), see abstract and the figures -- | 1-27 |
| A | US 6416454 B1 (S.B.KESSLER ET AL.), 9 July 2002 (09.07.2002), see claim 1 -- ----- | 1-27 |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

| | |
|---|--|
| * Special categories of cited documents: | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "E" earlier application or patent but published on or after the international filing date | "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family |
| "O" document referring to an oral disclosure, use, exhibition or other means | |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search
17 March 2004

Date of mailing of the international search report

25-03-2004

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE03/01787**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Invention I: claims 1 - 27

Invention II: claims 28 - 35

See extra sheet for explanation.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: **1 - 27**

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

The present application relates to the handling of reaction mixtures in liquid media where a rapid mixing and homogenisation with respect to both temperature and molecular concentration is desired.

The single general concept of the present application is that a reaction vessel is subjected to asymmetric heating, cooling and simultaneous centrifugation.

However, document WO 00/58013 A1 (D1) discloses a method and a device for homogenous mixing of reaction mixtures. The mixtures are placed in a vessel and the contents of the vessel are subjected to a centrifugal force. During the centrifugation, the vessel is heated at one side and simultaneously cooled at the other side (page 12, lines 1-10; page 13, lines 7-25). Therefore, both the heating and the cooling are considered to be asymmetric.

Since the concept is known, it cannot be inventive. Hence, there is no single general inventive concept in the sense of Rule 13.1 PCT.

No other features can be distinguished which can be considered as same or corresponding special technical features in the sense of Rule 13.2 PCT.

Thus, the application lacks unity of invention.

The following inventions have been identified:

Invention 1: Claims 1-27

Invention 2: Claims 28-35

The difference between invention 1 and D1 relates to the problem of how to create the temperature differences in the vessel.

The difference between invention 2 and D1 concerns the configuration of the vessel. This difference relates to the problem of how to take into account the flow pattern achieved in the vessel.

An international search report has been established for the first mentioned invention (invention 1).

INTERNATIONAL SEARCH REPORT
Information on patent family members

27/02/2004

International application No.

PCT/SE 2003/001787

| | | | | | | | |
|----|---------|----|------------|------|----------|-----|------------|
| WO | 058013 | A1 | 05/10/2000 | NONE | | | |
| US | 6342771 | B1 | 29/01/2002 | DE | 29721563 | U | 14/01/1999 |
| | | | | DE | 59804007 | D | 00/00/0000 |
| | | | | EP | 1035924 | A,B | 20/09/2000 |
| | | | | WO | 9929431 | A | 17/06/1999 |
| US | 5724819 | A | 10/03/1998 | US | 5433080 | A | 18/07/1995 |
| | | | | US | 5551241 | A | 03/09/1996 |
| US | 6416454 | B1 | 09/07/2002 | EP | 1220718 | A | 10/07/2002 |
| | | | | WO | 0126816 | A | 19/04/2001 |